DOCUMENT RESUME

ED 094 002 TM 003 859

AUTHOR Weis, Susan F.
TITLE Evaluation of a Demonstration Program for Postsecondary Hospitality Education.
PUB DATE [Apr 74]
NOTE 25p.; Paper presented at the Annual Meeting of the American Educational Research Association (59th, Chicago, Illinois, April 1974)

EDRS PRICE MF-$0.75 HC-$1.85 PLUS POSTAGE
DESCRIPTORS Associate Degrees; Comparative Analysis; *Demonstration Programs; Economically Disadvantaged; Managerial Occupations; *Post Secondary Education; *Program Effectiveness; *Program Evaluation; *Service Occupations; Vocational Education
IDENTIFIERS *Hospitality Education

ABSTRACT

A three-phase program evaluation effort employing comparison groups and a pre-post test design indicate formative guidelines for programs revision and summative results indicative of the effectiveness of a demonstration associate degree program for hospitality education. Program effectiveness is defined in terms of the program's enrollment of economically disadvantaged students.It is also defined in terms of its provision of (1) an adequate knowledge and skill base in food production, service, and management; (2) affective development in terms of vocational commitment; and (3) a basis which permits program graduates to compete with graduates from comparable programs for mid-management positions in the hospitality industry. (Author)

11.25
P 23

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ED 094002

EVALUATION OF A DEMONSTRATION PROGRAM FOR POSTSECONDARY HOSPITALITY EDUCATION

Susan F. Weis
The Pennsylvania State University
212 Rackley Building
University Park, Pennsylvania 16802

PRESENTED AT THE ANNUAL MEETING OF THE
AMERICAN EDUCATIONAL RESEARCH ASSOCIATION
CHICAGO, ILLINOIS
APRIL 1974

TM 003 859

EVALUATION OF A DEMONSTRATION PROGRAM FOR POSTSECONDARY HOSPITALITY EDUCATION

Introduction

Since its inception, vocational and occupational education have assumed the awesome responsibility of training individuals for successful entry into the labor market. To progress over the past six decades, vocational and occupational education has faced the need to challenge fixed assumptions concerning modes of instruction. In hospitality education, basic knowledge and skill has been traditionally learned in laboratory settings which are intended to simulate the reality of a food production and service operation.

This project evolved as a means of meeting a growing demand for supervisory and managerial personnel in the hospitality industry while operating within the societal constraints created by rising educational costs and the alienation of the disadvantaged from a citizenship which demands educational credentials for entry into the mainstream of the labor force.

To determine the success of this project as a generalizable alternative to the traditional instructional systems for hospitality education, we seized upon criteria which reflected what we believe to be the intent of the program. These criteria are represented in three questions.

1. Does the Demonstration Program prepare students for their careers as adequately as traditional programs?
2. Is the Demonstration Program successful in attracting and retaining economically disadvantaged students?
3. Are the students attracted to this program as academically qualified for postsecondary education as those attracted to comparable programs?

When one is being innovative, the established standards for existing programs may or may not be entirely appropriate for assessing the success or efficiency of the innovation. Therefore, a fourth criterion question which we seek to ask of the Demonstration Program is intended for that portion of the project which cannot be compared with existing norms.

4. Has the Demonstration Program produced a difference in its students in terms of the attainment of measurable attitudes, skills and knowledge?

Procedures

The plans for evaluating the Demonstration Program are conceived as involving three phases of evaluative activities. The initial phase concerns an assessment of the effectiveness of the first year of the program in educating its students as compared with other associate-degree programs in hospitality education. Criteria for effectiveness include degree of vocational commitment, achievement of a knowledge base in food production and service, high school grade point average, first year college grade point average, and socioeconomic level.

The second evaluation phase is focused upon a comparative pre and post program analysis employing the criteria of vocational commitment, and the achievement of knowledge bases in food production and service, and in food production management.

The third evaluation phase is concerned with a comparative analysis with students in other programs using the criteria of vocational commitment, employer's rating of program graduates, entry level job status and salary.

The basic hypotheses being tested in this project are (1) that students in the Demonstration Program will perform at a level equal to students

enrolled in comparable programs with respect to indices of vocational commitment, achievement of basic knowledge, selected competencies in the hospitality industry and in job placement and job performance; (2) that students recruited to the Demonstration Program will not differ from students recruited to similar programs in terms of high school achievement; and (3) students enrolled to the Demonstration Program will represent economic disadvantagement to a greater degree than students enrolled in comparable programs.

Instrumentation

The following instruments have been developed and/or used in evaluating the instructional system: the Vocational Commitment Index (Weis and Hubbard, 1973), a postsecondary hospitality education achievement test on food production and service, an achievement test on food production management, and Hollingshead's (1957) Two Factor Index of Social Position.

The Vocational Commitment Index. Hubbard's (1971) exploration of the theoretical foundations of vocational commitment led to the extraction of a series of qualities characteristic of the vocationally committed individual. These qualities were translated in a pool of 143 items. An instrument containing 114 of these items was developed and refined to 74 items scaled in a Likert-type device. The refinement of the instrument consisted of selecting items which correlated positively with total test score and which provided the greater evidence of discriminating power. Reliability of the instrument was computed to be .96 employing Kuder-Richardson formula 20 on data solicited from 123 subjects in the hospitality industry. Additional use of this instrument on 74 subjects employed in fields other than the hospitality industry yielded a reliability of .97 using Rabinowitz and Eikeland's (1964) analysis of variance technique.

Evidence of construct validity of the Vocational Commitment Index was secured through a jury of 16 graduate students who reviewed the characteristics of vocational commitment and then judged the extent to which each of the 114 original items reflected these characteristics on a three point scale. Results of this effort were converted to numerical weights and summed to yield a total score representing the degree of construct validity for each item. Validity ratings for the 114 items ranged from 16 to 48. Items receiving ratings of 32 or below were deemed to be less valid and those rated 33 and above, to be more valid. None of the items rated as less valid were retained in the index.

An effort to further examine the validity of the device was undertaken through an analysis of variance computed on mean vocational commitment scores of groups of subjects representing four levels of career development in hospitality occupations from persons making an initial vocational choice to experienced employees. A significant ($p < .01$) F ratio of 12.112 emerged from the analysis pointing up the instrument's ability to discriminate between degrees of vocational involvement.

Food Production and Service Achievement Test. This device was developed from existing evaluation materials in the areas of knowledge common to hospitality education in associate degree programs. The intent of this instrument is to assess the achievement of information and cognitive skills relevant to food production and service. The test contains 70 multiple choice items representing eight areas of hospitality education as illustrated in Table 1.

Evidence of instrument reliability was secured through the computation of Kuder-Richardson formula 20 on data solicited from 157 postsecondary hospitality education students. The resulting reliability was .84.

Insert Table 1 About Here

As this instrument was developed from evaluation materials used in postsecondary hospitality education, content validity of the test is assumed. However, evidence of the validity of the test was secured through the comparison of test scores from 61 students beginning their first year of a hospitality education program with those from 97 students beginning their second year. A t test was computed on these data and the resulting t ratio of 7.061 was significant ($p < .01$). Mean test scores were 30.59 for the first year students and 40.70 for the second year students. These data provide support for the test as representing content relevant to hospitality education, and further, that the test can discriminate between students who have and have not been exposed to this content in instructional programs.

Food Production Management Achievement Test. A second test was developed and refined to assess achievement of content relevant to food service, management and supervision. This instrument is comprised of 59 multiple choice items representing subject matter concepts of precosting foods, purchasing procedures, using storage facilities, receiving practices, payroll and scheduling and controlling food costs. The degree of representation of these concepts in the test is illustrated in Table 2.

Insert Table 2 About Here

Instrument reliability was estimated through the computation of Rabinowitz and Eikeland's (1964) analysis of variance technique for assessing internal consistency on data from 57 postsecondary hospitality education students. The resulting reliability was .796.

This device was developed from content in the text by Powers and Powers (1972).

Information Sheet I. A fourth instrument was used in the initial phase of evaluation to collect information on subject's high school grade point average at graduation and first year college grade point average. Included on this information sheet was Hollingshead's (1957) Two Factor Index of Social Position to secure data on subject's socioeconomic status.

Employer's Rating Scale. An employer's rating scale was developed from existing scales used in the collection of follow-up data on students graduating from secondary vocational education program. This device focuses upon the rating on a 5-point scale of employee characteristics of productivity, personal characteristics, job performance, job knowledge, quality of work performed, cooperation and dependability, judgment, and attendance and punctuality.

Quantification of the 5-point scale involves a process of weighing responses of excellent to a 5, above average to a 4, average to a 3, below average to a 2, and very unsatisfactory to a 1. Total ratings may vary from a high of 40 points to a low of 8 points.

Data concerning further reliability and validity of the rating scale is not available.

Information Sheet II. An information sheet was developed to collect data for the third evaluation phase. This device is comprised of items relevant to the entry level job secured by associate degree program graduates including job description, salary level, longevity of job, and employer's name and address.

Evaluation: Phase One

Sample. The sample for the first phase of the evaluation activities consisted of all available students beginning their second year of the Demonstration Program (n=17) and all available students beginning their second year in associate degree programs in hospitality education at the University of Massachusetts (n=39) and at Paul Smiths College (n=41).

Data Collection. All data for the initial phase were collected during the first week of November, 1972. The data collection devices were administered to students in the three programs by project staff members.

Data Analysis. To test the hypothesis,

> associate degree students enrolled in the Demonstration Program will not differ significantly from students enrolled in comparable programs with respect to indices of vocational commitment and achievement.

a series of one-way analysis of variance tests were performed using scores on the Vocational Commitment Index, and scores on the Food Production and Service Achievement Test of subjects grouped by programs. The F ratio resulting from the analysis of scores on the Vocational Commitment Index is .063 (nonsignificant, $p < .05$). The summary table is presented in Table 3. Group means and standard deviations are presented in Table 4. These results indicate that degree of vocational commitment was not significantly different between the three groups.

Insert Tables 3 and 4 About Here

Results of the analysis of variance computed on the Food Production and Service Achievement Test mean scores of the three groups are presented in Table 5. A significant ($p < .01$) F ratio of 7.706 emerged in this analysis. Group means and standard deviations are presented in Table 6. These results indicate that the performance of the three groups differed significantly with the Demonstration Program subjects scoring a lower mean performance on achievement than subjects in the two comparable programs. Therefore, the hypothesis is partially supported: Demonstration Program students perform at a similar level to students in comparable programs with regard to the criterion variable of vocational commitment. However, Demonstration Program students perform at a similar level to students in one comparable program and at a significantly lower level to students in another comparable program on an achievement test of food production and service.

Insert Tables 5 & 6 About Here

To compare the performance of Demonstration Program students with the students in comparable programs grouped together, two t tests were performed using scores on the Vocational Commitment Index and on the Food Production and Service Achievement Test for 17 Demonstration Program students and 80 comparable students. Table 7 presents the results of these analyses. The t value for vocational commitment was -.343 (nonsignificant) and the t value for achievement was 1.625 (nonsignificant).

Insert Table 7 About Here

These findings suggest that Demonstration Program students can perform at a level similar to the average performance of students in comparable programs on the criterion variables of commitment to the vocation and achievement of basic knowledge in this field when the differences between the two comparable programs are not taken into consideration.

A second hypothesis predicting no significant differences between Demonstration Program students and students enrolled in two comparable programs when the criteria are high school grade point average and first year college grade point average was tested using a series of one way analysis of variance tests. Results of the analysis of variance on the high school grade point average, presented in Table 8, yielded a nonsignificant F ratio of .131 ($p > .05$). Group means and standard deviations are presented in Table 9. These results indicate that high school grade point average was not significantly different between the three groups of students. These results were supported by the emergence of a nonsignificant t ratio of -.678 secured from a t test computed between Demonstration Program students and all other students grouped together, as illustrated in Table 10. These findings indicate that students in the Demonstration Program are similar to students in two comparable programs with respect to academic performance in high school.

Insert Tables 8, 9 and 10 About Here

A significant F ratio of 7.069 ($p < .01$) emerged on the analysis of first year college grade point average between the three groups of students. Results of this analysis are presented in Table 11 and group means and standard deviations are presented in Table 12. These results indicate that the

first year academic performance of students in the three programs differed significantly with Demonstration Program students averaging the lowest grade point average of the three groups. A t test performed between Demonstration Program students and all other subjects grouped together yielded a significant t value of 4.848 ($p < .01$). The results of the t test are presented in Table 10. The findings indicate that the academic performance of students in comparable programs was significantly higher than that of the students enrolled in the Demonstration Program for the first year of college.

Insert Tables 11 and 12 About Here

These findings partially support the second hypothesis regarding the academic competence of students recruited to the Demonstration Program as compared to that of students in similar programs. Demonstration Program students appear to be academically as qualified as students in other programs when recruited to the program. However, Demonstration Program students do not maintain academic equality with these peers during the first year of college.

A third hypothesis predicting that students in the Demonstration Program will represent a significantly different socioeconomic status from those students in two comparable programs was tested using a one-way analysis of variance on group means from Hollingshead's Two Factor Index of Social Position. The resulting F ratio, presented in Table 13, was 1.662 (nonsignificant, $p > .05$). Descriptive data on the group means and standard deviations are presented in Table 14. When Demonstration Program students were compared with all other students in a t test computed on group means

on Hollingshead's socioeconomic status index, a nonsignificant t value of -1.072 emerged. The t test results are presented in Table 15. The findings from these analyses indicate that Demonstration Program students do not differ from their peers in other programs with regard to socioeconomic status. Therefore, the three programs recruit students from similar socioeconomic levels. Hypothesis 3 is rejected.

Insert Tables 13, 14 and 15 About Here

Discussion of Findings From Initial Evaluation

The results of the analysis of data for the initial phase of program evaluation suggest the following conclusions.

1. Students entering the Demonstration Program are academically equal to students enrolled in comparable programs in terms of evidence of high school achievement. Therefore, the program can be considered as providing educational experiences for students who have similar academic backgrounds to those participating in other programs for hospitality education.

2. Students enrolled in the Demonstration Program achieve a significantly lower grade point average for the first year of their college experience than do students in other programs. Therefore, a more thorough analysis of student course load, study time, and other factors influencing the academic performance of students is warranted.

3. Demonstration Program students perform at a level similar to those in comparable programs on a measure of vocational commitment. Therefore, the Demonstration Program can be considered successful in inspiring its students toward assuming positions as vocationally committed employees in the hospitality industry. As prospective mid-management personnel, their commitment is viewed as a necessary attitudinal component for occupational success.

4. Evidence of student achievement of knowledge of food production and service as provided by scores on an achievement test suggest that Demonstration Program students have not achieved this knowledge base at a level comparable to that of students in other hospitality education programs. Therefore, a reassessment of the Demonstration Program is warranted to strengthen and reinforce student achievement of basic knowledge in food production and service.

5. To date, the Demonstration Program has not succeeded in enrolling students from economically disadvantaged families to a greater extent that comparable programs. Therefore, efforts to publicize the program among lower economic populations may need to be increased.

Evaluation: Phase Two

The second phase of evaluation is focused upon a pre and post program analysis. Criteria for this analysis include vocational commitment and the achievement of knowledge bases in food production and service in food production management.

Sample. The sample for the second phase of evaluation is comprised of all students ending the Demonstration Program (n=13), and all students beginning their second year of this program (n=39).

Data Collection. Data were collected from the subjects completing the program in May 1973 and in September 1973 on subjects beginning the second year of the Demonstration Program Instrumentation for the second phase included the Vocational Commitment Index, the Food Production and Service Achievement Test, and the Food Production Management Achievement Test.

Data Analysis. An hypothesis predicting no difference between subjects beginning the second year and subjects ending the Demonstration Program with respect to indices of vocational commitment and the achievement of knowledge of food production, service and management was tested using a series of independent, non-correlated t tests.

Results of the t test performed are presented in Table 16. These results indicate that students ending the program do not differ significantly from students entering the second year of the program on vocational commitment or on the achievement of knowledge of food production and service, although beginning students performed significantly ($p < .05$) better on the Food Production Management Achievement Test than did students completing the program. These findings indicate partial rejection of the hypothesis of no difference between pre and post program data.

Insert Table 16 About Here

Discussion of Findings From Second Evaluation Phase

The findings of no difference between students beginning the second year of the Demonstration Program and those students completing the program on the criterion variables of vocational commitment and the achievement of knowledge of food production and service are perceived as evidence that the second year of the program had a limited effect in terms of enhancing the career development of its students. This is particularly evidenced by the finding that students beginning their second year significantly out performed students ending this year on the achievement of knowledge of food production management.

These findings are complicated by several factors which may bear influence on group performance. The two groups of students may represent individuals who differ in academic ability, motivation, and/or relevant experiential background. This evaluation bears repetition employing the same students at the end of their second year to determine if measurable increments are evidenced on the criterion variables. The validity of the Food Production Management Achievement Test is questionable in the light of these findings

and may require refinement or redevelopment. Since the validity of the other two evaluative devices has been more extensively examined than the Food Production Management Achievement Test findings related to those devices are more credible.

Evaluation: Phase Three

This final phase of evaluation is concerned with comparing graduates of the Demonstration Program with graduates of two comparable programs using the criteria of vocational commitment, employer's rating of employee performance, entry level job status and salary.

The major hypothesis being tested is that graduates of the Demonstration Program do not differ from graduates of comparable programs with regard to indices of vocational commitment, job placememt, salary, and job performance.

Sample. Subjects for this evaluation were recruited from the graduates of the Demonstration Program (n=12), and graduates of two similar programs (n=125).

Data Collection. The data collection was conducted in February and March 1974. Letters enclosing an information form, the Vocational Commitment Index, and a return envelop were sent to 137 prospective subjects, soliciting their participation in the final phase of program evaluation. As these materials were completed and returned by participating subjects, returns were processed. A letter and an Employee Rating Form were sent with a return envelop to all employers of subjects.

To date, this data collection effort has been less satisfactory than anticipated. Thirty-two (or 24%) the 137 persons solicited have responded after 2 1/2 months and follow-up efforts are underway to secure a greater proportion of returns.

The data received to date are summarized in Table 17 which presents the means and ranges of scores on the criterion variables of vocational commitment, employer's rating of employee performance and entry level salary for participants grouped by programs. No interpretation of the data summarized in Table 17 will be made before data collection efforts are completed.

Preliminary Summary

Although premature, some comments regarding the project seem appropriate at this time. The results of the evaluative efforts have been used to provide feedback over the several years of the Demonstration Program. Modifications in student recruitment, course content and instructor roles have occurred as project staff adjusted to and shaped the emerging program.

Self-instructional textbooks have been developed and refined for use in associate-degree hospitality education. These materials have employed the concept of a theoretically ideal food service operation in order to provide a basis of student interpretion of the realities encountered in their work experience in practicums situated in actual operations. Seminar sessions afforded an arena for student discussion of the knowledge and skills gained from textbooks and practicums. Evaluation devices developed during the project served twin purposes of student assessment and program assessment.

The final verdict on the program's effectiveness in producing qualified mid-management personnel for the hospitality industry hangs in the balance. The data so far do not characterize the program as either a dismal failure or an overwhelming success, but rather as an emerging possible alternative to the traditional, laboratory-oriented programs for hospitality education.

For the nation's third largest industry, for an industry which has historically provided upward mobility for the foreign-born, and the disadvantaged, and for an industry which is predicted to hold a critical role in the future, such an alternative may be a necessary prototype.

Table 1. Number and Proportion of Items in Areas of Hospitality Education Represented in Food Production and Service Achievement Test

Subject Matter Area	Number of Items	Proportion of Items
Cost and portion control	9	.13
Safety and cleanliness	3	.04
Customer service and hospitality occupations	3	.04
Nutrition	7	.10
Food purchasing	10	.14
Food storage	9	.13
Food preparation	25	.35
Equipment	5	.07

Table 2. Number and Proportion of Items in Areas of Hospitality Education Represented in the Food Production Management Achievement Test

Subject Matter Area	Number of Items	Proportion of Items
Precosting	23	39.0
Purchasing policy and procedure	5	8.5
Purchasing specifications	17	28.5
Using storage	4	6.8
Receiving practices	4	6.8
Payroll and scheduling	3	5.1
Food cost control	3	5.1

Table 3. Analysis of Variance of Scores on Vocational Commitment Index of Students in Three Programs

Source	df	Sum of Squares	Mean Square	F Ratio
Program	2	47.290	23.645	.063
Error	94	35481.824	377.466	
Total	96	35529.113		

Table 4. Group Means and Standard Deviations on the Vocational Commitment Index.

N	Mean	Standard Deviation
17	221.824	15.109
41	219.902	19.469
39	220.821	20.943

Table 5. Analysis of Variance of Scores on the Food Production Service Achievement Test of Students in Three Programs

Source	df	Sum of Squares	Mean Square	F Ratio
Program	2	973.409	486.704	7.706*
Error	94	5936.921	63.159	
Total	96	6910.330		

* significant, $p < .01$

Table 6. Group Means and Standard Deviations on the Food Production and Service Achievement Test

N	Mean	Standard Deviation
17	38.059	7.075
41	38.122	7.991
39	44.564	8.242

Table 7. Means, Standard Errors Squared and t Values of Two Groups of Subjects on the Vocational Commitment Index and Food Production and Service Achievement Test.

	Demonstration Program Students			Students From Other Institutions	
	Mean	St'd Error^2	t Ratio	Mean	St'd Error^2
Vocational Commitment Index	221.82	13.43	-.343	220.35	5.04
Food Production and Service Achievement Test	38.06	2.95	1.625	41.26	.94

Table 8. Analysis of Variance of High School Grade Point Average of Students in Three Programs

Source	df	Sum of Squares	Mean Square	F Ratio
Program	2	.213	.107	.131
Error	94	76.763	.817	
Total	96	76.976		

Table 9. Group Means and Standard Deviations on High School Grade Point Average

N	Mean	Standard Deviation
17	2.581	.452
41	2.450	.937
39	2.505	1.005

Table 10. Means, Standard Errors Squared and t Values of Two Groups of Subjects on High School and College Grade Point Averages

	Demonstration Program Students			Students From Other Institutions	
	Mean	St'd Error^2	t Ratio	Mean	St'd Error^2
High School G.P.A.	2.58	.01	-.678	2.48	.01
First Year College G.P.A.	2.45	.01	4.848*	2.94	.01

*significant, $p < .01$

Table 11. Analysis of Variance of First Year College Grade Point Average of Students in Three Programs

Source	df	Sum of Squares	Mean Square	F Ratio
Program	2	4.127	2.063	7.069*
Error	94	27.437	.292	
Total	96	31.564		

*significant, $p < .01$

Table 12. Group Means and Standard Deviations on First Year College Grade Point Average

N	Mean	Standard Deviation
17	2.446	.328
41	3.032	.481
39	2.850	.658

Table 13. Analysis of Variance on Socioeconomic Status of Students in Three Programs

Source	df	Sum of Squares	Mean Square	F Ratio
Program	2	5.037	2.518	1.662
Error	94	142.468	1.516	
Total	96	147.505		

Table 14. Group Means and Standard Deviations on Socioeconomic Status

N	Mean	Standard Deviation
17	2.941	1.560
41	2.341	1.217
39	2.692	1.080

Table 15. Means, Standard Errors Squared and t Ratio of Two Groups of Students on Socioeconomic Status

	Demonstration Students	Students From Other Institutions
Mean	2.94	2.51
Standard Error[2]	.14	.02
t Ratio	-1.072	

Table 16. Means, Standard Deviations and t Values of Differences Between First and Second Year Demonstration Program Students on Three Measures

	First Year Students	Second Year Students
n	30	13
Vocational Commitment Index.		
Mean	229.57	221.00
Standard deviation	21.87	26.86
t value	1.013 n.s.	
Food Production and Service Achievement Test		
Mean	31.07	29.69
Standard deviation	8.13	11.87
t value	.381 n.s.	
Food Production Management Achievement Test		
Mean	30.00	22.46
Standard Deviation	13.38	7.33
t value	2.323*	

n.s - nonsignificant

* - significant, p.< .05

Table 17. Group Means and Range of Scores of Demonstration Program Graduates and Graduates of Two Comparable Programs on Three Measures.

	n	Mean	Range
Vocational Commitment Index			
Demonstration Program Graduates	2	285.50	274-297
Program I Graduates	15	228.60	196-291
Program II Graduates	12	230.50	190-266
Employer's Rating Scale			
Demonstration Program Graduates	1	30.00	30
Program I Graduates	5	34.20	27-40
Program II Graduates	8	29.50	22-37
Entry Level Salary			
Demonstration Program Graduates	2	3.00	2-4
Program I Graduates	14	3.15	1-4
Program II Graduates	11	3.00	2-5

References

Hollingshead, A.B. A Two-Factor Index of Social Position. New Haven, Connecticut: 1957. Multilithed.

Hubbard, C.F. Toward a Theory of Vocational Commitment. Unpublished Master's Paper. The Pennsylvania State University, College of Education, 1971.

Kuder, G.F. and Richardson, M.W. The Theory of Estimation of Test Reliability, Psychometrika, 1937, 2 151-160.

Powers, T.F. and Powers, J.M. Food Production Management. University Park: The Pennsylvania State University, 1972.

Rabinowitz, W. and Eikeland, H.M. Estimating the Reliability of Tests with Clustered Items, Pedagogisk Forskning, 1964, 85-106.

Weis, S.F. and Hubbard, C.F. The Vocational Commitment Index, Home Economics Research Journal, 1973, 2, 2, 105-111.